



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/730,143
Applicant : Kouta Fukui
Filed : December 9, 2003
Title: PHOTOTHERMOGRAPHIC MATERIAL
Art Unit : 1752
Examiner: Thorl Chea
Docket No: FS-F03215-01

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. §1.132

Sir:

I, Kouta Fukui, do declare and state as follows:

I graduated from the Tokyo Institute of Technology, Interdisciplinary Graduate School of Science and Engineering with a Master's Degree in Engineering in March 1990;

I joined Fuji Photo Film Co., Ltd.(Currently Fujifilm Corporation) in April 1990, and since that time I have been engaged in research and development in the field of silver halide photographic light-sensitive materials and developers thereof and since 1997 in the field of photothermographic materials; and

I am familiar with Decision on Appeal of the Office Action of March 3, 2007, and understand the Appeal Examiner's rejection therein.

The following additional experiments were carried out under my supervision in order to make the advantages of the subject matter disclosed and claimed in the above-identified application more clear.

Comparative experiment

Samples Nos. 101 to 136 were prepared similar to Experiment No.1 in Table 1 of Example 1 described in the specification of the present invention except for changing the content of silver iodide in the photosensitive silver halide, bisphenol reducing agent-1, bisphenol reducing agent-2, and a kind of organic polyhalogen compound represented formula (H) as shown in the following Table A. These samples are heat-developed in the same manner as for the photothermographic materials of the Example 1 of the present invention. The photographic properties of color tone of the silver image and photothermographic storability (ΔD_{min}) were evaluated in obtained samples in the same manner as for the photothermographic materials of the Example 1 of the present invention. The results of the evaluation are shown in the following Table A.

Table A

Experiment No.	Content of silver iodide (mole %)	Reducing agent-1	Reducing agent-2	Organic polyhalogen compound		Fresh photographic performance (Color tone)	Photothermographic storability ΔD_{min}	Remarks
				compound	Amount (mole/m ²)			
101	90	1-9	none	none	-	-2	0.07	Comparative
102	90	1-9	2-3	4-1	4×10^{-4}	0	0.00	Invention
103	90	1-9	3-3	4-1	4×10^{-4}	0	0.00	Invention
104	70	1-9	none	none	-	-2	0.09	Comparative
105	70	1-9	2-3	4-1	4×10^{-4}	0	0.00	Invention
106	70	1-9	3-3	4-1	4×10^{-4}	0	0.00	Invention
107	40	1-9	none	none	-	-2	0.10	Comparative
108	40	1-9	2-3	4-1	4×10^{-4}	-1	0.02	Comparative
109	40	1-9	3-3	4-1	4×10^{-4}	-1	0.02	Comparative
110	4	1-9	none	none	-	-2	0.35	Comparative
111	4	1-9	2-3	4-1	4×10^{-4}	-2	0.09	Comparative
112	4	1-9	3-3	4-1	4×10^{-4}	-2	0.06	Comparative
113	90	1-1	none	none	-	-2	0.09	Comparative
114	90	1-1	2-3	4-8	4×10^{-4}	0	0.00	Invention
115	90	1-1	3-3	4-8	4×10^{-4}	0	0.00	Invention
116	70	1-1	none	none	-	-2	0.12	Comparative
117	70	1-1	2-3	4-8	4×10^{-4}	0	0.00	Invention
118	70	1-1	3-3	4-8	4×10^{-4}	0	0.00	Invention
119	40	1-1	none	none	-	-2	0.15	Comparative
120	40	1-1	2-3	4-8	4×10^{-4}	-1	0.04	Comparative

121	40	1-1	3-3	4-8	4×10^{-4}	-1	0.03	Comparative
122	4	1-1	none	none	-	-2	0.48	Comparative
123	4	1-1	2-3	4-5	4×10^{-4}	-2	0.15	Comparative
124	4	1-1	3-3	4-5	4×10^{-4}	-2	0.12	Comparative
125	90	1-5	none	none	-	-2	0.05	Comparative
126	90	1-5	2-5	4-5	4×10^{-4}	0	0.00	Invention
127	90	1-5	3-1	4-5	4×10^{-4}	0	0.00	Invention
128	70	1-5	none	none	-	-2	0.06	Comparative
129	70	1-5	2-5	4-5	4×10^{-4}	0	0.00	Invention
130	70	1-5	3-1	4-5	4×10^{-4}	0	0.00	Invention
131	40	1-5	none	none	-	-2	0.08	Comparative
132	40	1-5	2-5	4-5	4×10^{-4}	-1	0.06	Comparative
133	40	1-5	3-1	4-5	4×10^{-4}	-1	0.04	Comparative
134	4	1-5	none	none	-	-2	0.28	Comparative
135	4	1-5	2-5	4-5	4×10^{-4}	-2	0.08	Comparative
136	4	1-5	3-1	4-5	4×10^{-4}	-2	0.07	Comparative

The Nos. of compounds in Table A are as same as the Nos. of compounds described in the specification of the present invention.

The amount of Reducing agent-1(alone) : 2×10^{-3} mole/m²
The amount of Reducing agent-1(combination) : 1×10^{-3} mole/m²
The amount of Reducing agent-2(combination) : 1×10^{-3} mole/m²

From the results shown in Table A, it is seen that, in the case according to amended claim 1 where the photosensitive materials 102-103, 105-106, 114-115, 117-118, 126-127 and 129-130 which are the photosensitive materials in combination of the photosensitive silver halide containing high silver iodide in an amount of 70 % to 100 % by mole, and the bisphenol reducing agent-1 represented Formula (R-1), the bisphenol reducing agent-2 represented Formula (R-2), and the organic polyhalogen compound represented by the following formula (H), unexpected superior improvements of color tone of the silver image and photothermographic storability (ΔD_{min}) were obtained in comparison with the case where the photosensitive materials 101, 104, 107, 110, 113, 116, 119, 122, 125, 128, 131 and 134 which are corresponding to the photosensitive materials without the bisphenol reducing agent-2 and the polyhalogen compound, and also in comparison with the case where the photosensitive materials 108-109, 111-112, 120-121, 123-124, 132-133 and 135-136 which use the silver halide containing silver iodide in an amount of less than 70% by mole.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

DATE: May 29, 2007

Kouta Fukui
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